A REPORT OF

The Part-time Course on Audio-Visual Education

Acc N° 868

DEPARTMENT OF RESEARCH
BASIC TRAINING COLLEGE
BANIPUR

DEPARTMENT OF EXTENSION SERVICES
DAVID HARE TRAINING COLLEGE
CALCUTTA

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POST-GRADUATE BASIC TRAINING COLLEGE
Banipur, Po. Balgachi, 24-Pgs.

S.C.E.R.T., West Bengal
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Calcutta
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Extension Service Deptt. David Hare Training College

S.C.E.R.T West Bengal
Date
Acc. No. 5683

Introduction

The Part-time Course of Audio-visual Education was organised by this department from 1st February, 1958 and was attended by 15 local teachers. Classes were usually held twice a week on each Thursday and Saturday.

The course included lectures, discussions on the use and preparation of teaching aids, actual demonstration and practical work with audiovisual equipments. The Participants in the course prepared under the guidance of the art teacher of this College, some nonprojected aids which might profitably be used in Schools.

The Extension Service Department also got all possible co-operation from the Film Library Staff of the Educational Directorate and other experts in the field. The course terminated on the 10th of May, 1958.

An ultimo of the Programmes is given below :—

Prof. K. P. Chowdhury	Introduction
Do	Types of audio-visual aids.
Prof. A. Mukherji	Projected aids.
Do	other
Shri S. N. Chakraborty	What are audio-visual aids.
Do	Contribution of educational films.
Shri K. L. Das	Group works on non-projected aids.
Shri K. C. Guha	Operation of Prejectors and other audio-visual equipments.

PROF. K. P. CHOWDHURI

The present system of education as imparted is merely a verbalism and has great defects. Students become passive learners and the response from them is unsatisfactory. Verbalism tries to utilise suggestions as the method for learning. However effective it may be, it is not an ideal method. Apart from other things, the transfer value of such learning is very poor and boys' individual initiative decreases. Educational materials should be presented to pupils as concrete experience. As such audio-visual aids in teaching are being very much utilised in many countries of the West. This has gone a great way in promoting effective learning among children and adults. Audio-visual aids is a counter of Verbalism and endeavours to present reality in as concrete manner as possible. It is a basic idea of present day education that the learner himself should contribute to the learning process. In attempting to prepare Visual aids, he may try to gather more experience and to endeavour to concretise the existing experience. This should result in learning; as such audio-visual aids are in themselves methods and contribute much to education. A child learns through his own activities. A learner learns new facts, acquires new skill and develops new values and new attitudes. A teacher helps students in the task by leading him through planned experience. Eyes and ears are the two most important organs for acquiring experience.

Reading is also a visual experience. For effective education, it is necessary to make experience as concrete as possible. Book experience is a later developed experience and is presented in forms of language symbols: hence it is abstract. Problem of Visual Education is to present the experience in a concrete form. Geographical terms like desert, island, harbour etc. for example can be concretised through Visual materials.

Visual aids can broadly be classified into (a) projected and non-projected materials.

Non-projected Visual aids can again be subdivided into the following groups:

(i) Dramatisation—It is one of the most effective form of education and it can be widely used. Dramatisations in a variety of forms from the spontaneous acting out of the rules to the carefully rehearsed full-length play, complete with costumes and scenery can be undertaken in schools. Between these extremes are such other forms as puppet shows, pageants. tableaus, shadow plays, dialogues, recitations etc. In each of these dramatised experiences one is either a participant or an observer. But there are difficulties in exhibiting pageants. tableaus, shadow plays and therefore they can not be presented in classroom. Dramatisation may take place (simple make-belief) inside the classrooms. The experience in dramatisation is much more immediate and meaningful to one who plays a part than to the boy who merely watches. So maximum participation in dramatised activities should be secured.

(ii) Field trips on education through reality.

(a) Field trips is a planned visit to a place outside the classrooms. In such trips pupils learn by coming into direct contact with environment.

(b) Education through specimens: What we cannot learn by directly coming in contact with objects, may be learnt generally, by collecting specimens and keeping them in school museum. Even photographs displayed on walls help us in visualising the natural settings. We cannot take our students on a tour of the world, but we can bring fragments of the physical world in the classroom in the form of objects carefully presented in their realistic background.

(iii) Models: They are of three dimenstonal presentation of realities—but is not as effective as dramatisation. They are recognisable imitations of real things usually similar to the original in every respect except size. Different kinds of things may be used in making a model:

(a) Paper-cut model: It is the easiest and can be collected from newspapers, magazines.

(b) Cardboard model: Misonite wood is preferable.

(c) Paper Sculpture: It is made from paper pulp.

(d) Wood model: Masonite or ply wood is preferable.

(e) Plasticine model.

(f) Plaster of paris: It is very costly.

(g) Paper machae: It is a mask costume of paper. It can change a little child into a wild animal, horse or sheep, whatever skilled fingers of a child aided by the teacher can devise.

(h) Clay model.

(i) Portrait type of model: Not very effective by themselves.

But in every kind of model some human activity must be shown to make it more effective else mere presentation of models fails to capture students' imagination.

(iv) Pictures: They are of two dimensional presentation of reality and their effectiveness is less than that of models. They lack certain qualities of the more symbolic experiences; but they have unique advantage of their own. They bring close to the very point of Visual contact with reality itself.

(v) Flannel-Graph: Various pictures or sketches are fixed in order over a piece of flannel. It is one kind of pictorial aid in education. The advantage of it is that it runs like a movie and can be used in presentation and application stage of a lesson. During the recapitulation the pupils may indulge in the activity of fixing the pictures in order.

(vi) Portraits: They are representatives of reality in a two dimensional manner. Portraits of individuals or pictures of instruments can be used as Visual Aids. But they carry little value by themselves and do not carry the learner too far. Time and money spent on them is too much for the benefit derived from them. Individual or isolated portraits carry little value. If the real object is at hand, a portrait serves no immediate purpose; because it is only a substitute for the real thing. But after a real object has been studied, the portrait can help as a reminder to refresh memory.

(vii) Posters: It attempts to present an idea and not an object. It is only a propagandist approach and exerts great emotional influence. They are of emotional appeal and deliver their message without giving details. If, in execution, they are not very good and effective, specially if the symbol and the message are not understood at first sight, the poster is likely to fail in its objective. They are also cartoon types of presentation. The difference between a cartoon and a poster is that cartoon appeals to sense of ludicrocity and humour, satire and mockery.

A cartoon tells its story metaphorically through pictures and is more powerful. A perfect cartoon really needs no caption; the symbolism conveys the message. The less the artist depends on words, the more effective the symbolism is.

It is very interesting to students. Making cartoons can prove a valuable classroom activity. Many students enjoy this individual way of illuminating the news in social studies learning. Cartoons at little cost may be made into a film-strip. Sometimes it becomes a regular feature of the classroom bulletin board. It has special appeal to students of higher classes.

(viii) Picture Diagrams: It is presenting an idea through picture symbols instead of word symbols. It has lesser emotional appeal; but it appeals to intellect.

Execution of pictures can be done in different ways:—

(a) Drawing.

(b) Painting: It is an important factor in education. Assembling of coloured pictures is also important. Sometimes written materials may lack the richness of detail necessary to understand a thing, but a picture can often communicate content and it is more specific and interesting.

(c) Paper cuts: It is the cutting of pictures from newspapers and magazines.

(d) Stick drawing: In it lines look like sticks. Some sense of proportion is needed in stick-drawing. The value of stick drawing depends in large measures upon the skill with which drawings and explanations have been developed.

(ix) Diagrams: They are the representations of relationship between realities, e.g. A map represents the relationship of distance and directions between places. So they are less real.

of Screen used, the photographic quality of the transparency and the distance of the projector from the Screen. By placing the projector close to the screen in order to give the greatest intensity of light, some slides can be shown without darkening the room at all. They are portable and unbreakable. They can be rolled swiftly.

The disadvantage is that film strips require considerable skill. They become scratched by frequent use.

Names of the projector: (a) Magic Lantern—Available in Calcutta from Pure Drug Co., Cooper lane. (b) SVE Projector or View-lex:—To be had from B.I.S., U.S.I.S., Patel India, Allahabad Agricultural Institute—Extension Department, Ministry of Education may also supply on request.

Basic facts of motion pictures: The term indicates its nature of medium of instruction through pictures in motion. It compels attention, heightens reality and can control time in any operation or a series of operations.

There are three types of projecting machine. 35mm. projecting machines are used for commercial purposes, specially in cinema houses. 16mm. projecting machines are used in educational institutions and in showing documentary films in rural areas. 8mm. machines are generally used for amateur purposes.

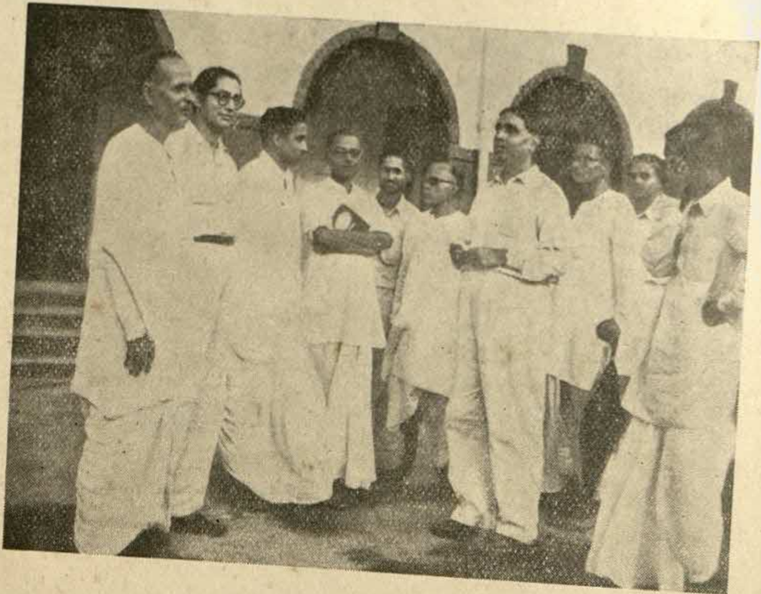
In 35mm. machines 900′ is shown in 90 min. or 24 frames per second. In 16mm. machines 36′ per minute or 360 ft. is shown in 10 minutes, 8 frames pass per second.

Sources: (a) Victor—Dealer Evergreen; U.S.I.S. may lend on request. (b) AMA—Bell and Howell. (c) RCA—General Radio & Applicances. (d) Ampro—Patel India.

C. Shadow Play:—In shadow play, boys stand behind a screen and light is focussed on the screen from behind the boys. Shadow is reflected on the screen. A commentator stands by the side and speaks about the movement and the doing (Uday Shankar's Ram Lila and Buddha) have become popular shadow plays.

D. Film: There are different types of Film—(a) Documentary Film, (b) Publicity film, (c) Educational film, (d)

Groups engaged in discussion



Commercial or feature film—film shown in cinema houses are generally commercial film.

Documentary films run from ten minutes to ninety minutes. They carry social message. They are taken from the life and activity of the people on some particular occasion.

Educational films: They are for imparting knowledge and education to boys and the mass.

Publicity film: These are entirely for the purpose of publicity of commodities. Government have now been showing publicity films.

The difference between a documentary film and publicity film is that the former is not biassed and carries messages of social activity, whereas the latter has a bias and does not carry any message.

Advantages of motion films for teaching:

(a) It is the best approach regarding presentation. In clarifying the relationship among things, ideas and events, it can draw on rich resources of visual and auditory devices.

(b) It created interest and draws attention.

(c) It helps to bring more materials in less time and is retained longer by the learner.

(d) It does not depend on language and has become universal medium of instruction, and education.

(e) It creates confidence in the learner.

(f) It brings distant past and the present in the class room.

(g) It provides nearly perfect record of things.

(h) It provides standardised information and shows minute detail.

Some technical advantages:

(a) It can control the time factor in any operation. Films shown in slow motion can stretch time or by speeding up motion, it can shorten time. Certain actions occure so swiftly that the human eye cannot see them; by increasing the number of exposures we can slow down the actions. By exposing fewer frames per second, we can speed up action to show the process of a plant growth, which in reality is too slow for human eye.

out an effort. We can view through a film, how can Eskimo driving a Kayak hunts animals in snow. We may not be able to climb the Himalayas, visit the interior of Africa, or see the Pyramids of Egypt. But motion pictures can bring those things very close to us.

Science: Films of scientific subjects are available. Pictures and figures on slides can be drawn by boys. Even painting with crayons can be exhibited. The use of colours helps demonstration with successful result. There is no time limitation in the use of colour, but too many colours hinder the lesson rather than aid.

History: The teaching of history can be made interesting through dramatisation. Diagrams, exhibits, charts, models, pictures, slides are also helpful. Films on ancient historical places can be shown; but the lessons can be more effective, if dramatisation follows films. It assists students in remembering and reconstructing events that occurred many hundreds of years ago. To understand either the past or the present we should proceed from the few to the many, from the individual to the general. No history teacher can teach as much history in an hour as film can do in a short time. The greatest advantage of the motion picture in teaching history is that it creates an atmosphere of reality by annihilating the time factor—the past is revived in the present. But distortion of facts may follow. The teacher should check in order to dispel time concept. Children cannot be expected to understand all the devices used by the film makers to denote the passage of time.

In order to use motion picture intelligently, the following points are to be observed:

(a) A teacher should know the availability of the best film on the subject he is going to teach.

(b) A preview of the film by the teacher is necessary in order to note what they are, else he cannot make use of them intelligently. Moreover, the planning stage requires thoughtful consideration, for it determines every subsequent stage in the procedure.

(c) The child should be taught in advance something about the subject the film is going to show. The films should run as the presentation of the subject as soon as the teacher has done the teaching. This will help students to remember more clearly what is taught.

(d) Follow-up discussion: It is a review of the lesson. The teacher at the time of discussion evaluates the effect of screening in terms of learning by the students. He should be careful against incorrect notions or unanticipated understanding. The extent and the manner in which the discussion is used depend upon the film itself and upon the specific plan developed for its use.

The second spinning of the lecture is required if students do not follow.

SHRI S. N. CHAKRABARTY

Audio-Visual aid is a sober thing and in it, teaching does not largely depend upon the reading of books in order to convey their ideas and meaning. It is based upon the visual materials, and teaching in any branch of knowledge can be greatly improved by the use of them. It can make learning a thing of joy and the subject matter learnt is retained long. It can promote the most effective kind of learning among children and adults. It is a movement of recent growth and states of Andhra, Madras, Hyderabad have made substantial development in imparting education through audio-Visual aids. These States have taken up many things and introduced them in their own regions, so that effective teaching can be imparted through eyes and ears. It is not concerned with films and film strips alone; but bulletin board, posters, charts, pictures, flannel board, puppets, exhibits, diagrams and the like come within the scope of visual aids.

Objects of Visual aids:

(a) A good teaching does not mean to impart information. It is only a misconception. There is a gulf of difference between the meaningless drill and the thoughtful practice. During the course of a lesson a teacher says many things but very few can grasp it. Most of the boys look vacant and the response from them is very poor.

(b) Audio-visual aids are the only means of teaching; but they are not an end in itself. It is in the hands of teachers, who by means of skilful manipulation and sympathetic attitude will assist students in learnings things in a congenial atmosphere of mutuality. If the feeling of mutuality pervades the class, any misconception is removed and teaching becomes effective.

(c) It does not replace textbooks. Reading should always be in view. It builds up teaching very effectively.

Projected Visual Aids:—

(a) Magic Lantern: It has been in use for the past 40 or 50 years, though it is invented 300 years ago. Its modern name is diascope. It is an aid to education. It is a very simple machine and its operation is easy. In rural areas this can be shown with the help of an acetyline gas. Slides of 3¼″×3¼″ or 2″×2″ are generally used. Darkness of the room is not always necessary. Wattage of the projection bulb should be increased and it will serve good visibility. This can be shown with a good plan of a lesson. It also prepares the mind of the boys.

(b) Epidascope: It is an opaque projector. A mirror is placed at an angle of 45%. Pictures are reflected from the mirror on the screen. Boys are generally motivated by it. Instead of darkening a room, wattage is to be increased for good visibility.

(c) Slides: They are three dimensional matters. They are either 2″×2″ or 3¼″×3¼″ and are wellknown to teachers. They can be made on any subjects. Educational slides can be had on loan from the Ministry of Education, Govt. of India, Audio-Visual Section. Govt. Libraries can also supply. It can be made if a magic lantern is available.

(d) Film-strips: They are valuable projected aids in education. They are 35mm. in width containing 10 to 100 pictures in a strip. Each picture can be demonstrated as long as necessity arises. Auditory accompaniment can be used to create a sound film strip. At present they are available on all subjects. They are extremely helpful and should be used if they illustrate the lesson by touching all the points in a planned way. Preview of the film-strip is necessary for effective guidance and teaching. They are non-inflammable and are easily portable.

There are two types of film-strips—vertical ($\frac{1}{2}''\times1''$) and horizontal ($\frac{3}{4}''\times1''$). In each of the two types, there is a sound accompaniment. Vertical display of strips can be easily shown; but in horizontal display, some special arrangement is required for demonstration.

Basic principles in the using of film strips:—

(a) Appropriate selection of the film strip is essential. The subject matter should be clear and disntinct, so that pupils can easily follow it.

(b) Wasting of time in adjusting and threading of materials should be avoided as far as possible. In order to be familiar with subject matter, it is necessary for the previewing of the film strips and reading the accompanying guide. Moreover, if there is any mechanical defect, it should be repaired beforehand, or if there is any damage, the damaged portions is to be removed. In any case observation of the machine is necessary beforehand.

(c) Once the film has been threaded into the projector, the lesson can proceed, but not until light is checked. The room should be dark enough to provide satisfactory projection of the picture on the screen. To enable the students to take notes, wattage of the projection bulb should be increased instead of darkening the room. The screen may also be hooded to make the picture quite visible. If the lighting is satisfactory and the strip is normal presentation of the subject will be perfect and the lesson will be interesting. If necessary, each film strip shall be projected long enough 'for adequate study.

To know the effectiveness of teaching, boys should be stated through oral questions, written materials, or through observation of students' performance, or through assigning of further activities. Even they may be asked to draw or paint the follow-up, of activities. If there is any technique they should be asked to show it. Too many frames should not be used at a time. Excursion should not be used at a time. Excursion is also desirable to motivate the children.

Contribution of educational films:—

(a) Films are the most effective aids in the education of children. A picture is better than book-learning; but the film is the best of all; because it can show movement and is considered the most outstanding contribution in education. Moreover a planned film is very effective. Students like to see films and they are highly motivating. They can show the on-going process.

(b) The motion picture can control the time factor by increasing or decreasing the speed. The slow motion film is made by taking the motion pictures at greater than the normal speed of 16 frames per second for the silent film and 24 frames per second for the sound film.

(c) With the help of a film we can see things with naked eyes. Certain actions occur so swiftly, or so slowly that the human eye cannot see them. By exposing fewer frames we can speed up the actions or we can slow down the action by increasing the number of exposures.

(d) Things can be magnified and projection is possible on the screen on account of magnification. There are very minutest things which we cannot see with naked eyes. By means of microscopic lens attached to the camera, it is possible to take photography of objects and activities of those minutest particles and observe them in motion pictures on the screen. Even blood corpuscles can be seen with naked eyes.

(e) We can turn clock back to centuries ago. We can bring things of the remotest past to the present and make them realised to children and adults. The actual reconstruction of historical events in motion pictures helps us to understand them with greater vividness.

(f) We can show a technique from beginning to end and we can repeat it at any time we like.

(g) Film can change attitude of the pupil. Attitude as defined by Thurstone, is "generalised reaction for or against a specific psychological object." There is evidence that attitudes may be affected within a relatively brief period through reading or through viewing or discussing films. Almost every situation in which a child is involved educates him to some extent about himself and some other people.

(h) Motion pictures compel attention and heightens reality. The motion picture is an edited version of reality. So it can heighten reality by eliminating distraction.

What is an educational film?:—

Educational films are instructive and are meant for educational purposes. The other films are only for enjoyment. Some feature films have educative value; but mostly they are made to entertain the people only. There is evidence that feature film can change attitude, increase information and modify behaviour; so they have educational effects.

Educational films have been classified into three groups:—

(a) Instructional film. This is mainly instructive and is used more or less in classrooms. Subjects of history, geography and science are dealt in it.

(b) Documentary film: It is a factual representation of real life events. It tells its simple story in terms of human beings and human interest. It is a picture of real situation and a purposeful shaping of reality. Sometimes professional actors are hired, because it is not always easy to secure natural spontaneous performances from the camera-shy man. It conveys information about social development and social upliftment.

(c) New Film: It mainly deals with the news and is a straight shooting of events that happen day to day. It is also a picture of actual happenings. The difficulty is that they are taken in 35 m.m. and so they cannot be used in classrooms.

Children's Film Society: These films are available in foreign countries. Children play in the role.

Learners were divided according to their subjects of History, Geography, Science, Mathematics, English, Bengali.

Shri K. L. Das

Shri Das dealt with non-projected aids. He demonstrated models and charts. Models are made from clay, paris plaster. But they are breakable. At present paper pulp is used in making models. It is very convenient and unbreakable. Charts can be drawn and may be painted with colour to impress upon the boys. Colour draws attention.

It can be purchased or can be made.

Paper pulp:—

Any kind of paper may be taken for making paper-pulp; but ordinary paper or foolscap paper is preferable. Paper is to be rubbed first until the fibre gets slackened. Water is to be sprinkled frequently at the time of rubbing; whiting is (available at hardware shop) to be mixed; gum acacia is to be mixed according to proportion.

Models: They may be flat or round. Threepiece wood is not suitable; rather masonite board is preferable. The former will be heavy; masonite board is lighter and is portable. Glue (Shirish Atha) is to be poured over it to make it permanent on the board.

Rolling board or slate board: Materials required for making a slate board:

(a) Methylated spirit, chimney black (Bhusa Kali), Lac (Chach Gala).

According to quantity the above materials are to be mixed in proportion. Rolled cartridge paper or packing paper may be used for the purpose of slate board.

Colour—Since white colour is to be mixed with gum acacia. Glycerine is to be poured, if it is necessary, in accordance to proportion, for glycerine makes the colour soft.

Poster colour or tempera colour or show-card colour can be made in the above process.

Indian red is to be mixed over the zinc white to make linonium.

In painting, hog's hair brush is used.

Summary of the lectures & discussions on various topics

WHAT ARE AUDIO-VISUAL AIDS ?

There should be an understanding first of the expression 'Audio-Visual'. The expression 'audio-visual' has been preferred to 'visual' not simply for the importance given today to such aids as sound films, recordings, and radio broadcasts, but for the fact that all aids, whether primarily visual or aural, can be effective in the class-room mainly through the two senses—hearing and sight.

Elimination of some misconceptions about Audio-Visual aids

It would be well also to remove in the beginning some misconceptions about audio-visual aids.

(1) *Audio-Visual aids are not concerned only with films or filmstrips.* These aids are no doubt of great importance, but they are by no means the only ones. There are many other audio-visual aids as shown in the following list :

The blackboard, the magnetic blackboard, the bulletin board, the flannel board, charts, posters, diagrams, maps, globes, photographs, pictures, paintings, models, objects, the diascope, the episcope, the epidiascope, the filmstrip projector, the film, tape recordings, radio, television, the gramophone, dramatics, pantomime, puppet show, journeys.

(2) *Audio-Visual aids are aids to learning rather than to teaching.* This does not mean that audio-visual aids lighten the work of teachers. When a teacher uses these aids he needs more planning and preparation than when he takes a lesson with the help of a text-book, but his additional labour is always rewarded with more effective learning on the part of his pupils.

(3) *Audio-Visual aids are but means to an end.* "The educative process is a spiritual interaction between personali-

ties : not merely a matter of communication by a teacher to a pupil. The teacher is always more important than any apparatus he uses ; indeed the apparatus is of value only through the use the teacher makes of it, and the worth of that use depends not so much on the dexterity of the teacher or on his skill in manipulating the apparatus as on his sympathy with his pupils, his interest in their problems, his knowledge of their difficulties, his own sense of values." (A report of the Advisory Committee on education in Scotland)

(*4*) *Audio-visual aids cannot replace text-books.* We must think that audio-visual materials can replace text-books or that earlier teaching methods were all wrong or inefficient. Reading shall always remain, though it may often be more effective and pleasant through a proper utilization of these aids.

Some Scientific-Visual aids and their possible uses in educational Institution in India

The Diascope (*or the magic lantern*)

The diascope (or the magic lantern) has been used over a long period of years by many Indian schools and social education centres. It was invented about three hundred years ago. The material to be shown is reproduced on a transparent 3¼″×4″ or 2″×2″ slide. The advantage of the apparatus is that its operation is very simple and its does not require complete darkening of the room. The slides are very easy also to make.

Though diascope slides are bulky, fragile, and relatively expensive the apparatus with an acetylene or petromax lamp can prove very useful in village schools in India where no electricity is available

The Episcope.

The episcope is an instrument for the projection of any non- transparent material such as pictures, photographs, maps, diagrams, coins, stamps, leaves. The principle is simple.

The flat item is placed in the projector through an opening of 6×"6". By means of a strong light and a mirror placed at 45" the image is reflected on the screen.

An aid of great educational value.

The instrument is of great value in educational work and all schools in our country where electricity is available should have it. The great advantage of the episcope is that unlike other projectors it does not require any prepared slide or film. Anything printed, written, or drawn can be projected once the instrument has been secured. And whether for junior or senior classes there is a great mass of material in books or magazines which when projected on the screen can be of great educational value. In the Primary school, for example, a page from a book can be magnified on the screen in the classroom and all children can read it together. When children are learning to write, some of their common errors can be pointed out by projecting samples of their writing. Many Indian periodicals now abound in coloured geographical pictures and these, when projected and magnified on the screen, can be of great help in a variety of lessons. Teachers should encourage children to collect suitable material for projection.

The Epidiascope.

The epidiascope, as the name indicates, is a combination of episcope and diascope. Though there is some advantage in having the two instruments combined in one, the apparatus is too bulky and heavy. So it is much better to have the episcope and the diascope separately. Moreover, as the apparatus will be used mainly in towns having electricity, there may not be much use of the diascope part.

The Filmstrip

A filmstrip is the most inexpensive medium of mass communication yet devised. It is a continuous strip of 35mm noninflammable film consisting of individual frames or pictures

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arranged in sequence, usually with explanatory titles. The filmstrip can have as many as one hundred frames, but the usual number is about sixty. The pictures may be single or double frame. In case of single frame, the picture is about 3/4"×1" and in case double, 1"×1". The single frame is most commonly used and it is run through the projector vertically. The double frame picture is generally printed horizontally and it is run through the projector horizontally. Some projectors have swivel heads so that pictures may be shown vertically or horizontally.

Advantages of filmstrips

The filmstrip is one of the finest learning aids and should be used by all educational institutions in India. The strip projector is much cheaper than a film projector—a fairly good projector costs about Rs. 350/-. There are now excellent filmstrip projectors with kerosine lamps for use in rural areas where electricity is not available. The filmstrip projector is not very different in principle from the old magic lantern. but its chief advantage is that instead of individual slides to be inserted or removed by hand, a strip of film containing a large number of pictures can be used mechanically. It is, therefore, much easier to use. The projector is much lighter also than the magic lantern, and the strip of film which is used in it, unlike heavy and bulky lantern slides, is light and compact. Moreover. the strip has no risk of breakage. The strips are inexpensive also, and so many schools and social education centres can easily build up libraries of those filmstrips of which they are likely to make regular use. As in the case of the magic lantern, the filmstrip projector does not require complete darkening of the room, and the strips, like the slides, can be made without much difficulty if the necessary apparatus is made available.

Using the filmstrips

The first step in using a filmstrip is to know its content. This can be done by previewing the strip and reading the accompanying notes. The strip to be used should have definite value in relation to the topic under study. There is little point in using a strip if it just touches upon one or two important points in connexion with the topic.

The strip should be properly introduced. The teacher should tell the class what the filmstrip is about, how it relates to the topic under study, why it is being shown, and what items should be particularly looked for in the strip. It is a good practice to write all main points in the strip on the blackboard.

The strip should be properly presented. A filmstrip projector ls quite a simple machine, and the person who uses it should be able to operate it with ease and confidence. It is wise to check the projector and thread the strip before the class meets. If for the sake of ventilation the room cannot be made sufficiently dark, make the picture smaller to ensure sharpness. And if the room cannot be darkened at all as it sometimes happens, increase the wattage of the bulb or the power of the lamp, make the picture smaller, and use a shadow box screen. A makeshift shadow box can be made of cardboard. These devices are better than rear projection with the help of mirrors. If available use a beaded screen, though it should be noted that a beaded screen is unsatisfactory for those seated at the sides of the room. Each picture should be on the screen long enough for thorough investigation. Some pictures of course make their points so quickly that only a glance is needed. Questions and discussions should be encouraged during the showing of the strip. This course is not possible with sound strips.

The follow-up filmstrip can take many forms depending upon the nature of the subject. A general discussion and tests, oral or written, are usual follow-up activities. The filmstrip may be shown again if necessary to emphasize some special points. Sometimes a single frame is projected and used as a basis for written or oral composition. In some subjects particularly in the junior classes creative activities like drawing or painting are based on the filmstrip. If the filmstrip is on technical subject involving demonstration of skills, the follow-up should include actual practice of techniques shown. Sometimes in some subjects a filmstrip may arouse an interest in a school journey or field trip. Since the interest and the desire to learn may not last long such trips should be undertaken as early possible.

PROJECTED AIDS.

The basic philosophy of the audio-visual method is to counter against verbalism. Words—spoken, written and printed have been the dominant elements in our teaching method. Audio-visual aids are materials to assist (aid) towards a more effective learning through the sensorial processes of audition and vision.

The chief projected aids i. e., aids which appear as a result of some projecting device are—

1. Shadow Play.
2. Picture Projection.
3. Slides & Filmstrips.
4. Motion Picture.

1. Shadow Play

The shadow is thrown from behind the screen. Actors make the actions and a commentary follows. Scenes are made by cutouts. The help of an artist is needed. Descriptive poems are good subjects for shadowplays.

2. Picture Projection

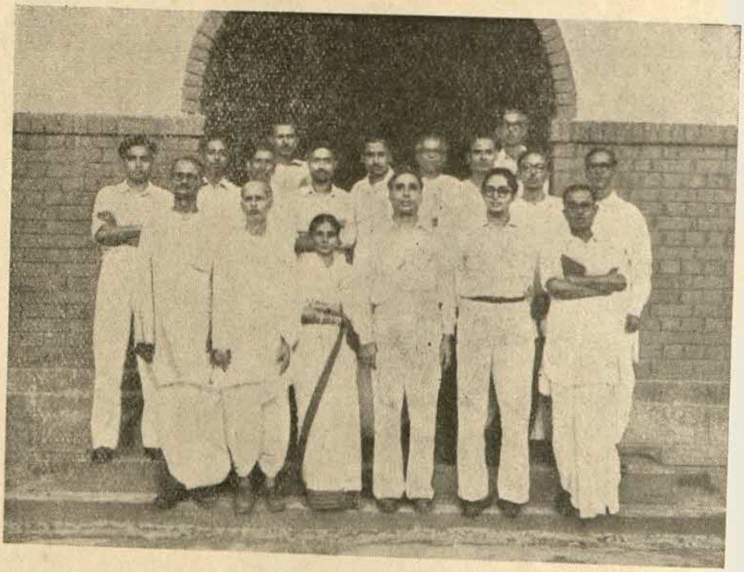
Episcope—a machine for projecting an opaque matter (picture or print).

Epidiascope—a machine for projecting an opaque matter as well as slides. The advantage is that a page from a book, a picture or a writing can be shown to the whole class.

3A. Slides.

Two types : Glass slides & Kodak film Slides

Participants in the course of Audiovisual Education



Glass Slides are photographic or painted or both.

Size 3¼″×3¼″

Equipment : Magic Lantern

A set of slides is necessary for a subject.

Kodak slides are mounted frames of 35 mm. Size 2″×2″. Can be shot in a camera and the exposed frames later mounted. Equipment for projection : a 2″×2″ slide projector or a device to carry this size in a standard projector. For school purposes, 2″×2″ slides are easier to prepare.

3B Filmstrips or Slidefilms.

Exposure on single or double frame in a 35mm. strip of film. Commentary either read out or printed on the frame or in between frames as subtitle.

Equipment for projection : Filmstrip Projector.

Common varieties—SVE, Picturol, Viewlex etc. There are filmstrip cum slide projectors also.

Advantages of filmstrips over slides :

1. Filmstrips are non-breakable.
2. Filmstrips are easy to carry.
3. Operation of a filmstrip projection is still easier.
4. A large stock of subjects is available on filmstrips.

4. Motion Picture or Films or Cinema.

Types of films according to size :

35mm. 16mm. 8mm.

The 16mm. film is used for school purpose.

Silent film and Sound film. Now-a-days all films are generally sound films.

Equipment : 16mm sound projector.

Common Varieties—Victor, Ampro, R.C.A., Bell & Howeil, Devry etc.

The operation of a film projector requires a good training and care.

Types of films according to subject:

Feature, Documentary, Educational, Publicity

Educational films are those which are used specially for classrooms.

Steps in an effective film presentation:

1. Preview.
2. Introduction before presentation
3. Presentation—screening of the film.
4. Follow-up discussion.

Special Advantage as an Educational Medium :

1. Creates interest.

The very fact of a motion picture screening is of interest.

2. Draws attention.

A film on a particular subject draws more attention than what a lecture on the same subject does.

3. Universal medium.

Is not dependent On languade (so far as the picture aspect is concerned).

4. Provides standardized information.

There is the chance of variation and omission in lectnres.

5. Helps to learn more materials in less time. Retention is also longer.

6. Builds confidence in the learner.

This is because of the interest it creates and of the easy learning situation.

7. Provides the most perfect record of things and events.
8. Lends an illusion of reallty.
9. Can show details—the 'Close Up.'
10. Can stretch time e.g. quick movements in games and and sports.
11. Can shorten time e.g. blossoming of a flower.
12. Saves time to the Administration.

We can say a thing to a large number of people in a standard way and in a short time, and that as many times as necessary. For example—the film on Naya Paisa.

Use of projected aids in the class-room.

The largest use in the subject of Science and Geography. The use of films in the teaching of these subjects helps a great deal by.

1. Showing things in action e.g. Volcano or Camels moving n a desert.

2. Making generalisations e.g. a desert in Asia, a desert in Africa, a desert in America.

2. Bringing contrasts e.g., density of population in a city and a village.

Other subjects :

Mathematics—not many aids are possible. Films on fraction. decimal etc. are available.

History=slides possible e.g. Budhist Shrines, Mohenjodaro etc.

Films need be dramatic without however distorting historical facas.

Literature—Film on a book possible e.g., Ivannoe Animated film possible to teach about letters and words.

Enthusiastic teachers can prepare filmstrips on various class subjects after suitable planning.

Sources (films, filmstrips and slides may be borrowed from these places).

1. Educational Film Library, Govt. of W. Bengal,
   60B Chowringee, Calcutta.
2. U. S. Information Service
   1, Harrington Street, Calcutta.
4. Audio-Visual Section,
   Ministry of Education, New Delhi.

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THE FILM

Increasing use of educational films in India

Progressive educators in India have long recognised the value of films in all stages of education. Film libraries are maintained both by the Central and State Governments, and schools, colleges, universities, and social institutions are borrowing films in an increasing number.

Contributions of films to learning

The ideal method of learning about anything—an industrial process, a natural phenomenon, or an important event—is to see the thing firsthand. But in many cases this is not possible. We must turn to indirect observation for learning, and fortunately we have so useful a means of indirect observation as the film. Even where firsthand viewing is possible one may not learn what he needs to learn on account of the non-selective and confusing nature of the situation. The firsthand experience may well need to be supplemented with a film or any other audio-visual aid.

Films can show movement

There is no other medium which can create greater interest in geography lessons than the film. Any picture of a thing is immensely better than any description of the thing through print or talk, and the film is undoubtedly the best kind of picture. But this does not mean that the film will serve the purpose of the geography learner best. Indeed in some learning situations still pictures or maps may be more effective. It is very necessary, therefore, for our geography teachers to know in what respect a film should be considered superior to still pictures. The great difference between ordinary pictures and films is that the latter can show movement and it is this power of showing movement that makes films so valuable. "Life consists of movement and the introduction of movement makes the presentation of anything to do with life much more real. If geography is to deal with realities, it is obvious that the introduction of movement is necessary if we are to give the children any true conception of things with which geography deals." (J. Fairgrieve)

Films can reproduce events at a speed much greater or much less than the actual speed.

The normal speed of a silent film is 16 frames per second and that of a sound film is 24 frames. For the study of certain actions which occur very swiftly, e.g., a diving performance or a kicking of a football, slow motion films can be made by increasing the number of exposures. Similarly, by decreasing the the number of exposures and with the help of time-lapse photography the growth of a flower during a period of several weeks can be shown in a few minutes' time.

Films can enable children to study things which the unaided eye cannot see.

With the help of a microscopic lens, it is possible to photograph objects, e.g., plants or cells which can be seen only with the help of a microscope. When these photographs are projected on the screen, the entire class can study them.

Films can show a process that cannot be seen by the human eye.

A film can be made with the help of a series of drawings to show something which cannot be otherwise seen, e.g., how we hear, the action of molecules. Such films are no doubt expensive, but as they have great possibilities, it is hoped the Ministry of Education will soon undertake to make some for classroom use.

Films can show a technique from beginning to end.

In many teaching situations particularly in crafts and technical training we are to demonstrate techniques and processes. If films are made of these demonstrations, we can use them conveniently and effectively. Those who have demonstrated any manufacturing process know how difficult it to arrange for the demonstration in the classroom.

Films can bring the distant past into the classroom.

The past cannot be seen, but with the help of films we can turn the clock back. We reconstruct them in dramatic form and photograph these reconstructions. With the help of films we can see the battles on the historic field of Panipat or life in Mohenjo Daro. Many have already seen the film "Gotama the Buddha" producd by Shri Bimal Roy with the help of dramatic reconstructions and ancient relics of India.

Films can influence attitude.

Films can be used not only to increase knowledge but sometimes to bring about a change in attitudes. Films on some aspects of mines and cultivation can rouse sympathy for the miners or farmers. Films on some of the successful projects during the First Five-Year Plan can go a long way to increase the faith of the people in the present Government.

THE EDUCATIONAL FILM

Educational films are those films which are produced primarily for instructional purposes. They are distinguished from Feature Films which are made for entertainment. It is well-known, however, that many feature films have considerable educational value as they can increase knowledge and change attitudes. Films like "Madame Curie", "The Story of Louis Pasteur", "Sixty Glorious Years" are typical examples.

Educational films may be classified under three main heads:

(i) Instructional films.
(ii) Documentary films.
(iii) Newsreels.

Instructional films

These are the films to aid the learning of specific topics in the classroom in connexion with subjects such as mathematics, physics, chemistry, botany, history, geography.

Documentary films

The word "documentary" when applied to films means to teach (from latin 'docere'). By dramatizing actual material the documentary film conveys information and creates attitudes. It tells its story in terms of human beings and human interests.

It is wrong to think that a documentary film aims at a truthful representation of theme or an incident. As a documentary film is a purposeful shaping of actuality, it cannot be completely true. In many cases technical reasons also stand in the way of truthful representation. Though generally the actors of the documentary film are people in real life situations, there are occasions when the help of professional actors becomes a necessity.

Robert Flaherty's 'Nanook of the North' on the daily life of Eskimos in the Hudson Bay region, John Grierson's 'Drifters' on Scottish herring fishing, Alberts Cavalcanti's 'Rein Que Les Heurs', a picture of French unemployment, and John Heyer's 'Back of Beyond', the story of the mail van travelling into the burning desert of Australia are some of the outstanding documentary films.

Excellent documentary films have also been made by the Films Division of the Government of India. 'Our Neighbour Nepal', 'Drums of Manipur', 'Holy Himalayas', and 'Etawah Story' are some of its well-known productions.

NEWS-REELS

These have a definite place in education as they deal with recent events, both at home and abroad. One great difficulty in using newsreels is that they are generally produced in 35 mm. It is hoped, however, that in future 16 mm newsreels will be produced for circulation to educational institutions.

The newsreel has little in common with the characteristics of a documentary film except that they both deal with natural amterial. The newsreel presents in simple descriptive terms the events of the day without any colouring or bias, but the documentary film is concerned with the purposeful shaping of the newsreel material.

Films produced by commercial firms

Although films produced by commercial firms on their products or services have not been dealt with under educational films, many of these have considerable educational value. They are often in colour and are excellent in photographic quality.

They are generally loaned to educational institutions free of charges.

Children's films

Thoughtful parents in India are now conscious of unhealthy influences of films shown to children by cinema houses. They are prepared to take great care to select the films which their children should see, but they find this a difficult task as there are not many films suitable for young people. But to prevent children from going to the cinema is far more difficult.

But do children really understand and enjoy films made for grown-ups? As Mary Field has aptly said: "The plots and the characters and the motives are all outside their experience. And if they cannot understand the film on the screen, they may do one of two things. They may allow their eyes to be amused and excited while their minds remain passive and blank. On the other hand, they may become bored and noisy and a nuisance to themselves and to everyone near them. This applies equally to cartoon films which children are usually supposed to enjoy. But if boring the child is bad, the first alternative is far worse. It is criminal to allow children who go to the cinema in order to be active and to enjoy the films to sit passively with their minds not working."

Children need films made specially for them. Now, what sort of films do they like? Little children enjoy colour and movement without caring to understand the story, but the older ones like simple short realistic plots with lots of action and music in them. Children are interested in boys and girls and so children's films should be based on the achievements of children. Again, in children's films the story must be told in pictures rather than through dialogues and commentaries.

Children's films should not be confounded with instructional films. The main objective of children's films is to provide healthy entertainment which can improve children's mind. This is indeed a kind of informal education. We have in India plenty of excellent material for children's films in Hitopadesh and in the stories of Vikramditya. These stories undoubedly suggest to children such noble virtues as honesty, courage, kindness, and courtesy. It is encouraging that the Government of

India is alive to the great need for suitable films for children, and a Children's Film Society has been formed. The Ministry of Education in co-operation with the Films Division has taken up the production of several children's films.

Great Britain, Russia, Czechoslovakia, and France are the early pioneers in the field of making children's films, and we have in India today some outstanding foreign productions which when screened are immensely enjoyed by children. Amongst these are 'Bush Christmans', 'Fortune Lane', 'Jean's Plan', 'Circus Boy', 'Proud Princess', 'Boil, Boil, Little Pot', and 'The Boy Who Stopped Niagara'. These films have been acquired by the Central Film Library of the Ministry of Education.

Two children's films—'Bim' and 'Jean's Plan'—borrowed from the Ministry of Education were screened after the lecture.

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